4.6 GEOLOGIC HAZARDS

4.6.1 Setting

a. Geologic Conditions and Topography. San Luis Obispo County occupies a central position in the southern coast range complex. The County's landscape is defined by five mountain ranges that form five principal drainages aligned on a predominately northwest to southeast axis. The ranges include the Santa Lucia, Temblor, Caliente, La Panza and San Luis Mountains. The higher peaks, many of which exceed 3,000 feet, are located in the Santa Lucia and Caliente ranges. The Santa Lucia range, which is characterized by precipitous formation, forms a gentle curve from the north to the south end of the county. In the north, it presents a barrier between the wet coastal belt and the dry interior of the county. In the south, the range is joined by the La Panza, Caliente, and San Luis ranges to provide a wide, complex mountain region that traverses the interior of the county. The coastal plains and valleys of the County may be divided at Point Buchon into a northern and southern section by the interposition of the San Luis Range. The average elevation of peaks in the San Luis Range is approximately 1,600 feet. The northern coastal plain consists primarily of a relatively narrow bench that connects to the Santa Lucia Range. In the vicinity of the Chorro and Los Osos Valleys, the northern coastal sector makes its deepest inland penetration. The southern sector primarily consists of the Arroyo Grande Valley, an upland area of ancient dunes referred to as the Nipomo Mesa, and a portion of the Santa Maria River valley. The south coastal area is also characterized by an extensive dune area of recent origin along the coast.

Due to the prevalence of rolling or mountainous terrain, approximately 60% of the County is comprised of slopes of 30% or more. Approximately 23% of the County is comprised of 9 to 30% slopes, and approximately 17% of the County is comprised of slopes less than 9%.

The County identifies areas of potential geologic concerns as Geologic Study Areas (GSA). The GSA combining designation is applied to areas where geologic and soil conditions could present new development with potential hazards to life and property. According to the Land Use Ordinance and Coastal Zone Land Use Ordinances (22.14.070 and 23.07.080, respectively), these standards are applied where the following conditions exist:

1. *Seismic Hazard*. Areas of seismic (earthquake) hazards are identified through application of an Earthquake Fault Zone. Earthquake Fault Zones are established by the state geologist as required by Sections 2621 et seq. of the Public Resources Code (the Alquist-Priolo Earthquake Fault Zones Act), and are identified in the Land Use Element (Part II).

2. *Landslide Hazards*. Areas within urban and village reserve lines, identified by the Safety Element as being subject to moderately high to high landslide risk, and rural subject to high landslide risk.

3. *Liquefaction Hazard*. Areas within urban and village reserve lines, identified by the Safety Element as being subject to moderate to high soil liquefaction. Additionally, following the 2003 San Simeon Earthquake, the County has become aware of other areas with potential liquefaction hazard, such as in the Oceano Beach area. Though

these areas are not identified in the Safety Element, areas of known geologic hazard are treated similarly to areas in identified GSA.

4. *Erosion and Stability Hazard – Coastal Bluffs.* Areas along the coast with coastal bluffs are cliffs greater than ten feet in vertical relief that are identified in the Coastal Erosion Atlas, prepared by the California State Department of Navigation and Ocean Development (1977), in accordance with Hazards Policy No. 7 of the Local Coastal Program (Ord. 2742 § 11, 1995; Ord. 2344 § 1 (Exh. A) (part), 1998).

Table 4.6-1 outlines the location and reasons for GSA's within each County planning area. Seismic hazards, slope stability and landslides, and soil-related hazards are described in greater detail below.

Table 4.6-1 Planning Area GSA Designations

Planning Area	GSA	Reason	General Location
Adeladia	Yes	Landslide	Santa Lucia Range, Foothill, and Hillside areas (AG, RL)
El Pomar/Estrella	No	-	-
Estero	Yes	Landslide	Hillsides east of Cayucos and Morro Bay (AG, RL, OS)
Huasna-Lopez	Yes	Landslide	Portions of Santa Lucia Range and Hillsides Areas (AG, RL)
Las Pilitas	No	-	-
Los Padres	Yes	Landslide	Hi Mountain Lookout Road (OS), Stanley Mountain (OS)
Nacimiento	Yes	Landslide	Santa Lucia Range and Foothill Areas-Western portion of planning areas (AG, RL, OS)
North Coast	Yes	Landslide Bluff Erosion Seismic	Monterey Co. Line to Rancho San Geronimo-Inland (AG) Underdeveloped lots in Cambria w/ slopes >20% (RL, RSF, AG, RS) Coastline (AG, Rec, RL, RSF, OS) San Simeon Fault Zone - San Simeon Point - San Carporforo Creek (RL, AG)
Salinas River	Yes	Landslides	Southwestern corner of planning area and outlying areas (AG, OS, RL), Western corner of Atascadero City Limits (RR)
San Luis Bay Coastal	Yes	Bluff Erosion	Point Buchon to Avila Beach (AG, PF), Pirates Cove (RL, OS, RS)
San Luis Bay Inland	Yes	Landslides	Irish Hills, Indian Knob, Pismo Beach Hillside, Price Canyon, Portions of Squire Canyon and Montana de Oro (AG, RL Rec, PR)
San Luis Obispo	Yes	Landslide Seismic	North, East, and West Rural Areas (AG, RL, Rec, RR), Southwestern Corner Los Ranchos/Edna VR. Eastern corner SLO URL (RS)
Shandon-Carrizo	Yes	Landslide Seismic	Temblor Range, Red Hills, Hubbard Hill-Freeborn Mtn., Caliente Mtn. (RL) San Andreas Fault Zone (RL, Eastern California Valley VRL)
South County Coastal	No	-	-
South County Inland	Yes	Landslide	Temettate Ridge (AG)

AG - Agriculture; RL – Rural Lands; OS – Open Space; RSF – Residential Single Family; RS – Residential Suburban; Rec – Recreation; RR – Residential Rural; PF – Public Facilities; VRL – Village Reserve Line; URL – Urban Reserve Line.

Source: County of San Luis Obispo Area Plans

b. Seismic Hazards. Areas with seismic (earthquake) hazards are identified by earthquake fault zones as established by the Alquist-Priolo Earthquake Fault Zone Act of 1972. The California Geologic Survey (CGS, formerly Division of Mines and Geology) classifies faults as active, potentially active, or inactive according to standards developed for implementation of the Alquist-Priolo Earthquake Fault Zone Act. A fault that has exhibited surface displacement within the Holocene Epoch (the last 11,000 years) is defined as active. A fault that has exhibited surface displacement during the Quaternary time (i.e., within the past 1.6 million years) but which cannot be proven to have moved or not moved during the

Holocene time is defined as potentially active. Table 4.6-2 shows a list of the California Geologic Survey mapped faults than their respective maximum probable earthquake.

Portions of the Coast Range of California lie within the County. This range is considered a geologically complex and seismically active region that is subject to seismic hazards, which are discussed in more detail below. Active, potentially active, and inactive faults are located throughout the County (Table 4.6-2).

Within the County, the Coast Range is further divided into four distinct seismotectonic domains including the Santa Maria-San Luis Range, Coastal Franciscan and the Western San Joaquin Valley.

- *Santa Maria-San Luis Range Domain*. Comprising the southwestern area of the county, this range covers several planning areas, including San Luis Bay (Inland and Coastal), South County (Inland and Coastal), southwestern portions of the Estero, and the western portions of San Luis Obispo. Two recognized active faults are located in this domain, the Hosgri and the Los Osos. Geologic hazards within this domain include ground shaking, liquefaction, seismic related settlement of alluvium in low-lying areas, and tsunamis and coastal erosion in the ocean front areas. The majority of the range has a low landslide potential. However, steeper terrain areas and the less developed areas of the Santa Lucia Range and Irish Hills have the potential for severe landslides.

- *Coastal Franciscan Range Domain*. This range covers the Estero, North Coast, and the central portion of the San Luis Obispo and San Luis Bay (Inland) planning areas. Geologic hazards within this domain include ground shaking, liquefaction, seismic related settlement of alluvium in low-lying coastal areas, tsunami and coastal erosion in ocean front areas, and severe landslide potential on moderate to steep hillsides.

- *Salinian Domain*. This range covers Adelaida, Salinas River, El Pomar/Estrella, and Las Pilitas planning areas. This domain has a lower occurrence of geologic hazard compared to the Santa Maria and Coastal Franciscan domains; however, there are still concerns with ground shaking, liquefaction, seismic related settlement of alluvium in low-lying areas, and landslide potential on moderate to steep hillsides.

- *Western San Joaquin Valley Domain*. This area is located adjacently west of the San Andreas Fault, and includes the Shandon-Carrizo planning area of the County. This domain does not encompass any major existing communities in the County but is considered active due to the proximity to the San Andreas Fault.

Ground Shaking and Surface Rupture. Faults generally produce damage in two ways: ground shaking and surface rupture. Seismically induced ground shaking covers a wide area and is greatly influenced by the distance of the site to the seismic source, soil conditions, and depth to groundwater. Ground shaking has the potential to result in the damage or destruction of buildings, infrastructure, and possible injury or loss of life throughout the County. Ground shaking can also trigger secondary seismic phenomenon such as liquefaction, lateral spreading, seismically induced settlement and slope

instability, tsunami, and seiche, and other forms of surface rupture and seismic responses (SLO County 1999).

Table 4.6-2 San Luis Obispo County Fault Activity

Fault Name	Activity	Maximum Moment Magnitude
Hosgri-San Simeon	Active	7.3
Casmalia	Potentially Active	6.5
Los Osos	Active	6.8
San Luis Range	Potentially Active	7.0
San Juan	Potentially Active	7.0
Rinconada	Potentially Active	7.3
San Andreas-Carrizo	Active	7.2
San Andreas-Cholame	Active	6.9
San Andreas-Parkfield	Active	6.7
San Andreas (1857 rupture)	Active	7.8
San Andreas (1906)	Active	7.9
Big Spring	Inactive	n/a
Cambria	Potentially Active	6.25
Cayucos	Inactive	6.5
East Huasna	Potentially Active	n/a
Edna	Potentially Active	n/a
Morales	Potentially Active	n/a
Nacimiento	Active[1]	7.5
Oceano	Inactive	6.0
Pecho	Potentially Active	6.25
San Miguelito	Inactive	n/a
Santa Lucia Bank	Active	7.25
South Cuyama-Ozena	Potentially Active	7.0
West Huasna/Ozena	Potentially Active	7.0
Whiterock	Inactive	n/a
Black Mountain	Not Rated	5.0-7.5
La Panza	Not Rated	5.0-7.5
Point San Luis Thrust	Not Rated	5.0-7.5
Purisma-Solomon Thrust	Not Rated	5.0-7.5
Santa Lucia	Not Rated	5.0-7.5

[1] Although the California Geological Survey (CGS) and the County of San Luis Obispo Safety Element consider the Nacimiento Fault inactive, landforms in the Santa Margarita Ranch vicinity suggest geologically young faulting. In addition, its proximity to the active Oceanic Fault Zone, the source of the 2003 San Simeon earthquake suggests that the Nacimiento Fault Zone is possibly active (San Luis Obispo County – Affordable Housing Ordinance EIR, 2007). Therefore, for the purposes of this analysis, the Nacimiento Fault is considered active.
Source: SLO County Safety Element (1999)

Surface rupture refers to displacement of the ground surface along a fault trace, and is a potential hazard where future development would cross or be constructed astride known fault zones. Damage associated with fault-related surface rupture is normally confined to a narrow band along the trend of the fault, and fault displacement usually involved forces so great that it is generally not feasible (structurally and economically) to design and build structures to accommodate this rapid displacement. The greatest risk for fault displacement is generally thought to be along historically active and potentially active faults.

c. Slope Stability and Landslides. Landslides result when the driving forces that act on a slope (i.e., the weight of the slope material, and the weight of objects placed on it) are greater than the slope's natural resisting forces (i.e., the shear strength of the slope material). Slope instability may result from natural processes, such as the erosion of the toe of a slope by

a stream, or by ground shaking caused by an earthquake. Slopes can also be modified artificially by grading, or by the addition of water or structures to a slope. Development that occurs on a slope can substantially increase the frequency and extent of potential slope stability hazards. Areas susceptible to landslides are typically characterized by steep, unstable slopes in weak soil/bedrock units which have a record of previous slope failure. There are numerous factors that effect the stability of the slope, including: slope height and steepness, type of materials, material strength, structural geologic relationships, ground water level, and level of seismic shaking.

According to the San Luis Obispo County Safety Element (1999), there are several geologic formations commonly associated with slope stability problems, including the Franciscan, Rincon, Toro, and Monterey formations. Of these, the Franciscan is the most notorious formation known for slope instability. Numerous landslides within the Franciscan complex are observable along the Highway 1 corridor from San Luis Obispo to San Simeon. Numerous landslides have also been mapped in the Franciscan and Toro formations along Highway 101 on the Cuesta Grade. Landslides in the Franciscan formation have impacted residences, roadway facilities, pipelines, and other infrastructure in the County. The Rincon and Toro formations have a similar geologic history of landsliding, but are generally not as widespread as the Franciscan.

d. Soil Related Hazards. Soil related hazards include expansive soils, erosive soils, subsidence and settlement, and liquefaction. These types of hazards are discussed below.

Expansive Soils. During periods of water saturation, soils with high clay content tend to expand. Conversely, during dry periods, the soils tend to shrink. These volume changes with moisture content can cause cracking of structures built on expansive soils.

Erosive Soils. Soil erosion is the removal of soil by water and wind. The rate of erosion is estimated from four soil properties: texture, organic matter content, soil structure, and permeability. Other factors that influence erosion potential include the amount of rainfall and wind, the length and steepness of the slope, and the amount and type of vegetative cover.

Within the County, coastal bluff areas are commonly prone to erosion. Landslides and cliff retreat are part of the natural process of coastal erosion along the central coast. Waves that undercut bluffs often initiate landslides. During winter storms, heavy surf drags sand offshore, denuding many beaches and exposing the cliff base to direct wave attack. Most cliff retreat occurs at this time; powerful breakers crash into the cliffs, splintering the softer rocks into fragments that fall into the retreating surf. Persistent winter rains beating down on coastal bluffs slowly penetrate rock fractures, lubricating the joints between rock layers. Fractured shales, sandstones, and siltstones are most likely to slip and cause landslides, especially at locations where the land slants towards the beach.

Subsidence and Settlement. Subsidence involves deep seated settlement due to the withdrawal of fluid (oil, natural gas, or water). Settlement is the downward movement of the land surface resulting from the compression of void space in underlying soils. Seismically induced settlement occurs in loose to medium dense unconsolidated soil above groundwater. These soils compress (settle) when subject to seismic shaking. The settlement can be exacerbated by increased loading, such as from the construction of buildings. Settlement can

also result solely from human activities including improperly placed artificial fill, and structures built on soils or bedrock materials with differential settlement rates.

Liquefaction. Liquefaction is defined as the sudden loss of soil strength due to a rapid increase in soil pore water pressure resulting from seismic ground shaking. Liquefaction potential is dependent on such factors as soil type, depth to ground water, degree of seismic shaking, and the relative density of the soil. When liquefaction of the soil occurs, buildings and other objects on the ground surface may tilt or sink, and lightweight buried structures (such as pipelines) may float toward the ground surface. Liquefied soil may be unable to support its own weight or that of structures, which could result in loss of foundation bearing or differential settlement. Liquefaction may also result in cracks in the ground surface followed by the emergence of a sand-water mixture.

e. Regulatory Setting

Federal and State Regulations. The Alquist-Priolo Earthquake Hazard Zone Act was developed by the State to regulate development near active faults and mitigate the surface fault rupture and other hazards. The Act identifies active earthquake fault zones and restricts building habitable structures over known active or potentially active faults.

Local Regulations. San Luis Obispo County has mapped and established a Geologic Study Area (GSA) combining designation in potentially hazardous areas to ensure new development considers geologic and soil conditions that may create a danger to life and property. The County Land Use Ordinance contains design considerations with respect to seismic, landslide, and liquefaction hazards.

Section 22.14.070 of the County Inland Land Use Ordinance and Section 23.07.080 of the Coastal Land Use Ordinance require land use permit applications within a GSA be accompanied by a geology and soils report prepared by a certified engineering geologist and or registered soils engineer. Unless it is determined by the County Engineer that sufficient information exists in previous geology or soils reports, the report must include:

1. A review of the local and regional seismic and other geological conditions that may significantly affect the proposed use.

2. An assessment of conditions on or near the site that would contribute to the potential for the damage of a proposed use from a seismic or other geological event, or the potential for a new use to create adverse effects upon existing uses because of identified geologic hazards. The conditions assessed are to include, where applicable, rainfall, soils, slopes, water table, bedrock geology, and other substrate conditions that may affect seismic response, landslide risk or liquefaction potential.

3. Conclusions and recommendations regarding the potential for, where applicable:
    a. Surface rupture or other secondary ground effects of seismic activity at the site;
    b. Active landslide or slope failure;
    c. Adverse groundwater conditions
    d. Liquefaction hazards

4. Recommend building techniques, site preparation measures, or setbacks necessary to reduce risk to life and property from seismic damage, landslides, groundwater and liquefaction to insignificant levels.

4.6.2 Impact Analysis

a. Methodology and Significance Thresholds. In accordance with Appendix G of the State CEQA Guidelines, impacts would be significant if development in accordance with the proposed Grading and Stormwater Management Ordinances would result in any of the following:

- *Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, including liquefaction, or landslides;*
- *Result in substantial soil erosion or the loss of topsoil;*
- *Be located on a geologic unit or soil that is unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse;*
- *Be located on expansive soil, as defined in Table 1-B of the Uniform Building Code, creating substantial risks to life or property; or*
- *Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.*

Additionally, the County of San Luis Obispo has established local thresholds pertaining to geology. Impacts would be significant if development resulting from the project would do any of the following:

- *Result in exposure to or production of unstable earth conditions, such as landslides, earthquakes, liquefaction, ground failure, land subsidence or other similar hazards;*
- *Be within a California Geological Survey "Alquist-Priolo" Earthquake Fault Zone;*
- *Include structures located on expansive soils;*
- *Be inconsistent with the goals and policies of the County's Safety Element relating to Geologic and Seismic Hazards;*
- *Preclude the future extraction of valuable mineral resources.*

b. Project Impacts and Mitigation Measures

Impact G-1 The proposed Grading and Stormwater Management Ordinances would modify current development standards. This could result in a change in location for proposed development, and could result in such development being located in areas affected by active or potentially active faults. Impacts are Class II, significant but mitigable.

The proposed Grading and Stormwater Management Ordinances will require that projects be designed consistently with the Low Impact Development (LID) Handbook. In order to incorporate LID techniques, the locations where development could occur might be altered.

This could result in development being re-positioned to areas which could be affected by active and/or potentially active faults. Development in these areas could potentially cause significant impacts resulting from seismic events.

The Alquist-Priolo Earthquake Hazard Zone Act identifies fault zones and requires the county to regulate development near active faults. Per the Alquist-Priolo legislation, no structure for human occupancy is permitted on the trace of an active fault. The term "structure for human occupancy" is defined as any structure used or intended for supporting or sheltering any use or occupancy, which is expected to have a human occupancy rate of more than 2,000 person-hours per year. If development is proposed within an Alquist-Priolo Zone, a geologic study must be conducted to determine the location of the fault trace. Based on the findings in the geologic study, all structures for human occupancy must be setback a minimum of 50-feet from the fault trace because, unless proven otherwise, an area within 50-feet of an active fault is presumed to be underlain by active branches of the fault. All new development would also be subject to the goals and policies of the San Luis Obispo County Safety Element.

The proposed ordinance would not affect existing requirements for sites which have been covered under the Geologic Study Area (GSA) combining designation. Projects in these areas are already required to provide engineering geology and/or geotechnical engineering reports to address all soils and geology issues. These reports will include recommendations by the Certified Engineering Geologist and/or Registered Civil Engineer pertaining to design and construction techniques. Incorporation of these recommendations into proposed grading and and construction plans is already required under Titles 19 (Building and Construction), 22 (Land Use), and 23 (Coastal Zone Land Use) of the County Code. The California Building Code additionally provides standards which affect building design in seismic hazard areas.

Grading projects are to be processed as "engineered grading" when one or more of the following circumstances is met:

- The project involves site work on slopes of 20 percent or greater
- The project involves cumulative site work of 5,000 cubic yards or more
- The project occurs in the Geologic Study Area combining designation.
- The project occurs in the Flood Hazard combining designation.
- When the Director of Planning and Building has cause to believe that geologic hazards may occur.

Engineered grading requires that the grading plans be prepared by a civil engineer and that such plans be accompanied with both an engineering geology report and a geotechnical (soils) engineering report.

Mitigation Measures. Standards requiring engineering geology and geotechnical engineering reports and incorporation of the recommended measures already exist in the County's ordinances. These requirements will ensure that potential impacts are avoided or minimized to a level of insignificance. Additionally, all site construction is required to adhere to Title 19 (Building and Construction Ordinance) and California Building Code requirements which already include standards for constructing in seismic hazard areas. To ensure that projects that can be affected by faults are subject to project-specific geologic evaluation, the following mitigation measure shall be required:

G-1(a) **Processing as Engineered Grading.** Location of the project site relative to faults shall be considered as part of project-specific environmental review. Projects involving site development which can be affected by active or potentially active faults shall be processed as Engineered Grading. This can occur under the existing standard which provides that Engineered Grading may be required where the Director has cause to believe that geologic hazards may occur.

Significance after Mitigation. With the incorporation of the above measure, impacts will be reduced to a less-than-significant level.

Impact G-2 **The proposed Grading and Stormwater Management Ordinances would modify current development standards. This could result in a change in location for proposed development, and could result in such development being located in areas where soil related hazards (e.g. expansive soils, erosive soils, subsidence and settlement, landslide, and liquefaction) occur. Structural development in these areas could be impacted by soil conditions. Impacts are Class III, *less than significant*.**

The proposed Grading and Stormwater Management Ordinances will require that projects be designed consistently with the Low Impact Development (LID) Handbook. In order to incorporate LID techniques, the locations where development could occur might be altered. This could result in development being re-positioned to areas which could be affected by soil hazards. Soil-related hazards include expansive soils, erosive soils, subsidence and settlement, landslide, and liquefaction. Exposure of structures or residents to such hazards would constitute an impact. However, existing policies in place will ensure that the impact will not be significant.

Expansive soils can result in cracking of structures. Erosive soils can also cause damage to structures. Subsidence involves deep seated settlement due to the withdrawal of fluid (oil, natural gas, or water). Settlement is the downward movement of the land surface resulting from the compression of void space in underlying soils. Both subsidence and settlement can cause significant property damage. Landslide could result in complete dislocation of a structure. Lastly, when liquefaction of the soil occurs, buildings and other objects on the ground surface may tilt or sink, and lightweight buried structures (such as pipelines) may float toward the ground surface. Liquefied soil may be unable to support its own weight or that of structures, which could result in loss of foundation bearing or differential settlement. Liquefaction may also result in cracks in the ground surface followed by the emergence of a sand-water mixture.

Chapter 18 of the 2007 California Building Code (CBC) requires that a geotechnical (soils) report be submitted for all new construction. Limited exceptions to this requirement are allowed for the following types of structures:

- Greenhouses.

- Detached non-habitable residential accessory structures, such as garages, workshops, and storage buildings.
- Prefabricated or "light framed" engineered agricultural structures up to 3,000 square feet in size and meeting other specifications.
- Single family dwellings and additions that meet conventional construction requirements.
- Retaining walls and swimming pools, unless a site inspection reveals that a soils report is warranted.

An additional exception is granted where a Registered Civil Engineer can classify soil based on observation and materials tests as "Site Class D." This exemption from the soils report requirement must be accompanied with written findings prepared by the engineer justifying the classification. At the minimum, an expansion index must also be required unless waived by a building inspector.

Under all circumstances, proposed structures that occur in the following locations cannot qualify for an exemption from the preparation of a soils report:

- Within a Geologic Study Area (GSA) combining designation.
- Within a known liquefaction area.
- On a cut/fill over-excavation re-compacted pad or fill pad.
- In a flood zone or high groundwater area.
- In any other hazardous area as determined by the Building Official.

The soils report will include recommendations which must be implemented by the applicant in the proposed design and construction of a project. Project plans are reviewed for compliance with these requirements by the Building Division, and building inspectors ensure that any required inspections by the geotechnical engineer are conducted.

These existing policies, which are already in place, ensure that structures will not be significantly affected by soil hazards.

Mitigation Measures. Application of existing procedures under Title 19 (Building and Construction Ordinance) of the County Code and the 2007 California Building Code will ensure that impacts are less than significant. No further measures beyond existing policies will be necessary.

Significance after Mitigation. Impacts will be insignificant.

c. Cumulative Impacts. Future development in accordance with the proposed Grading and Stormwater Management Ordinances, in conjunction with other cumulative projects proposed throughout the greater San Luis Obispo County area, could potentially expose people and property to soil-stability related hazards. The magnitude of geologic hazards for individual projects would depend upon the location, type, and size of development and the specific hazards associated with individual sites. Any geologic issues present on an individual development site would be limited to that site and would not contribute to any cumulative impacts to the rest of the community. For example, the discovery of landslide concerns on two individual sites one mile apart would not create a

cumulative issue in which one condition adds to the other. Rather, any specific geologic hazards associated with each individual site would be limited to that site without affecting other areas. Therefore, cumulative geologic impacts would not occur.

As discussed above, new development within the County would be required to comply with the Alquist-Priolo Earthquake Hazard Zone Act and the Uniform Building Code, as well as additional mitigation measures and recommendations pertaining to fault location investigations, building envelope setbacks, grading and erosion. These measures would reduce impacts to a less than significant level. Therefore, the project's contribution to the cumulative increase in exposure of people to geologic hazards would be considered less than significant.